

DECLARATION OF
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ON
BEHALF OF AT&T CORP.

ATTACHMENT 8

The Public Utility Commission of Texas Southwestern Bell Change Control Process Validation Report

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1. Executive Summary

1.1 Introduction

The Telecommunications Act of 1996 (the Act), amending the Communications Act of 1934, established a framework for deregulation of the telecommunications industry. In the Act, there are special requirements that apply to Bell Operating Companies, upon which their entry into in-region interLATA markets is to be predicated.

A role of the Texas Public Utility Commission (Texas Commission or TPUC) is to determine level of compliance of Southwestern Bell Telephone Corporation (SWBT) with the requirements of the Act. In particular, the Commission is engaged in an evaluation of SWBT's Operations Support Systems (OSS) to determine the degree to which they conform to the provisions of the fourteen point checklist contained in Section 271 of the Act. The Texas Commission retained the services of Telcordia Technologies Inc. (Telcordia) as technical advisors. Telcordia's role was to review and oversee tests which would provide information to the Texas Commission to be used in determining the degree to which SWBT's OSSs comply with the requirements of Section 271 of the Act. The OSSs in question include those that furnish the mechanized operations interfaces by which CLECs (Competitive Local Exchange Carrier) may execute functions for Pre-ordering, Ordering, Maintenance & Repair (M&R) and Billing activities.

In addition, the Texas Commission asked Telcordia to undertake a separate activity to validate whether SWBT followed the SWBT Change Control Process in connection with the 8/14/99 EDI/LSR Release and the effectiveness of that process as to that release. This document describes those validation activities and details their results. Please refer to Section 2.4, "Limiting Conditions," for detail.

Note: The phrases "Change Control Process" and "Change Management Process" are used interchangeably in the subject documents and consequently in this report.

1.2 Principal Conclusions/Results

Telcordia found that SWBT generally followed its Change Control Process for the 8/14/99 Release; that inconsistencies within that process did not undermine achievement of its general intent, although some time intervals were accelerated; and that the process followed was effective as to this release. The Telcordia team observed that SWBT generally addresses CLEC affecting changes in a logical, prioritized and structured approach. Moreover, as recommendations and opportunities for improvement are implemented, the effectiveness of the process will be enhanced.

The SWBT managerial and technical staff interviewed appears knowledgeable, helpful and focused on meeting the business needs of the CLECs.

However, the Change Control Process validation results identified the following issues with a potential for CLEC impact. Although SWBT met the general intent of the Change Control Process with respect to the 8/14/99 EDI/LSR Release, the process, in certain areas, was not strictly followed:

- In at least one case SWBT requested an 8-day notification response window. This is not consistent with the 14-day interval for CLECs to respond to an SWBT Notification which is specified in the process.
- The 14-day window used for the 8/14/99 EDI/LSR Release joint testing was not consistent with the 30 day testing interval specified by the SWBT Change Management Process.
- The collection and analysis of test metrics was inconsistent with the Joint Test Plan.
- Also, the resolution and tracking of Change Management Process Meeting action items to closure was not always apparent based on meeting minutes.

NOTE: As discussed in the report, deviation relating to the first two bullets is of less concern because the modified timelines were, in part, due to the Texas Commission's request.

In the data reviewed and the meetings witnessed by Telcordia, no CLEC raised objection to the above issues with respect to the 8/14/99 release and during voting the CLECs unanimously agreed to go ahead with the release. However, the process should be revised and recommendations below should be taken to assure quality results for future releases.

Details regarding the SWBT areas of strength and areas for improvement are provided in Sections 3 and 4 (respectively) of this report. Attachment A provides a summary of issues and opportunities for improvement.

2. Background for the Report

2.1 Purpose

The purpose of this effort is to assist the Texas Commission in determining how SWBT followed the SWBT Change Control Process for the 8/14/99 EDI/LSR Release in working with the CLECs.

2.2 Scope

The scope of this effort was defined by the Texas Commission staff as:

"Validate whether SWBT followed the Southwestern Bell EDI/LSR Change Control Process (as reflected in SWBT Accessible Letters CLEC98-040 and CLEC99-097) in connection with the 8/14/99 EDI/LSR Release and the effectiveness of that process relative to that release."

Since the start of this effort, an additional Accessible Letter was issued relating to the Change Control Process, CLEC99-107. This was also included in the scope of this report.

2.2.1 SWBT Change Control Process

The Southwestern Bell EDI/LSR Change Control Process, as aggregated across the various Accessible Letters referenced in section 2.2 of this report, addresses the following topics:

- Identification & Documentation of CLEC Concerns Following SWBT notification of requirement changes
- Changes required to be made by the CLEC to meet the SWBT conversion date
- Changes which may be made at the CLEC's option on/after SWBT's conversion date
- Time Line for SWBT Reply to CLEC Concerns

- EDI Interface Testing
- Joint Test Plan
- Testing focused on meeting CLEC's test LSR-EDI objectives and expected results
- CLEC and SWBT test teams' availability and commitment to the test schedule
- Testing procedures
- CLEC and SWBT test teams issues resolution
- Emergency Situations
- Changes to the document
- Dispute Voting Process

According to information provided to Telcordia, the 8/14/99 EDI/LSR Release did not have any activities relative to: "Emergency Situations", "Changes which may be made at the CLEC's option on or after the SWBT conversion date", "Resolution of Outstanding Issues", "Industry Changes" or "Mandated Changes".

2.3 Approach

The approach is based on the scope as defined by the Texas Commission. The scope of this report focuses on how SWBT followed the Change Control Process relative to the 8/14/99 Release of EDI/LSR.

The SWBT Change Control Process is defined in the following Southwestern Bell Accessible Letters:

CLECSS98-040, "Southwestern Bell EDI/LSR Change Control Process"; June 15, 1998

CLECSS99-097, "Modification to the Southwestern Bell EDI/LSR Change Control Process" – Arkansas, Kansas, Missouri, Oklahoma, Texas; July 21, 1999

CLEC99-107 "Modification to EDI/LSR Change Control Dispute Voting Process" – Arkansas, Kansas, Missouri, Oklahoma, Texas; August 6, 1999

Accessible Letter CLECSS98-040 initially defines SWBT's Change Control Process for notification of changes to SWBT's Electronic Data Interchange (EDI) gateway and Local Service Request (LSR) usage requirements. Accessible Letter CLECSS99-097 modified the Change Control Process to include a dispute voting process and included a Joint Test Plan that specified test exit criteria to be used as the basis for requesting a "go/no go" vote. Accessible letter CLEC99-107 modified the dispute voting process by specifying

the size of the quorum necessary for a vote to be held and the number of votes needed to delay the implementation of the release based on the number of voting CLECs.

The Change Control Process was first utilized in conjunction with SWBT's implementation of the LSR2-3/EDI 8 and has been used on a forward going basis for LSR/EDI releases. The process was implemented with input from the CLECs and SWBT. The process is designed to be updated by SWBT to meet the evolving needs of the CLEC users and to align with applicable Ordering and Billing Forum (OBF) industry guidelines. Changes managed by the Change Control Process include, but are not limited to changes made in conjunction with the EDI and corresponding OBF capabilities reflected in the Local Service Order Guidelines (LSOG) and the SWBT Local Service Order Requirements (LSOR). SWBT and the CLECs currently have a 8-State drafting committee working on re-writing the Change Control Process.

The approach employed by Telcordia for validating how well SWBT followed the Change Control Process for the 8/14/99 EDI/LSR Release, as defined by the scope, involved:

1. Reviewing the Accessible Letters relating to the Change Control Process.
2. Reviewing the Accessible Letters relating to the 8/14/99 EDI/LSR Release.
3. Reviewing the Accessible Letters relating to the Change Management Process Meetings.
4. Discussing, with SWBT personnel, the 8/14/99 EDI/LSR Release and the Change Management Process as it related to the 8/14/99 EDI/LSR Release.
5. Attending the August 9, 1999 Sidebar Change Management Meeting on "Versioning" in Dallas, Texas.
6. Attending the August 10, 1999 Change Management Meeting in Dallas, Texas.
7. Participating in two conference calls between SWBT and CLECs addressing daily status of joint SWBT/CLEC testing for the 8/14/99 EDI/LSR Release.
8. Reviewing example documents requested from SWBT that included:
 - CLEC EDI test issues status as relating to the 8/14/99 EDI/LSR Release
 - Status of testing defects prior to the start of CLEC testing
 - SWBT e-mail on SWBT's internal daily status on Joint CLEC Testing
 - CLEC input on Change Control Process enhancements from 10/26/98 Change Management Process meeting
 - Sample of generic test case worksheet for joint testing
 - Samples of CLEC test case work sheets
 - Sample of SWBT tester's daily report
 - Sample of blank CLEC Change Request form

Note: See Reference Section for detailed listing.

Telcordia reviewed the items listed above as the means of validating how Southwestern Bell followed the Change Control Process for the 8/14/99 EDI/LSR Release. The Telcordia validation activities started on August 2, 1999 and concluded with the issuing of this report.

The timeline for the 2nd Quarter 1999 EDI/LSR Release (which later became the 8/14/99 EDI/ LSR Release) was as follows:

Initial Requirements issued	2/17/99
Final Requirements issued	3/31/99
Delay of release announced (from 6/26/99 to 8/14/99)	5/28/99
Notification on requirements changes (new error messages)	6/17/99
Update to Final Requirements issues based on previous notification	7/8/99
Correction to Requirements	7/23/99
Start of CLEC Testing	7/26/99
Completion of CLEC Testing	8/8/99
Go/No Go vote requested	8/9/99
Go/No Go vote - positive	8/10/99

Software was implemented prior to start of business on 8/16/99.

The following table shows the joint SWBT/CLEC testing activities within the 14 day window established for the 8/14/99 EDI/LSR Release.

	7/26	7/27	7/28	7/29	7/30	Sat. 7/31	Sun. 8/1	8/2	8/3	8/4	8/5	8/6	Sat. 8/7	Sun. 8/8
CLEC #1	PSD													
CLEC #2	PSD													
CLEC #3	PSD													
CLEC #4								PSD						

Shaded area shows period of joint SWBT/CLEC testing activity

PSD - Planned Start Date

2.4 Limiting Conditions

This Report has been prepared by Telcordia at the request of the TPUC. The TPUC retained Telcordia, an independent Third Party Consultant, to serve as the TPUC's technical advisor, to assist it and its TAG of participating service providers in conducting an evaluation of SWBT OSSs. Telcordia's activities were directed solely by the TPUC, and Telcordia's results were provided solely to the TPUC and to others (including SWBT and CLECs) only when the TPUC so directed.

Telcordia validated SWBT's Change Control Process, and its effectiveness, in connection with only SWBT's 8/14/99 EDI/LSR Release, utilizing the standards and criteria contained in SWBT procedural documents identified in the Report. In preparing this Report, Telcordia may have relied on information provided by others. In such case, except to the extent that Telcordia employed processes to verify such information and so describes them in this Report, Telcordia has not independently verified the accuracy or completeness of information provided by others, and expresses no opinion on such information.

Telcordia and the TPUC advise the reader that this Report is intended solely for use by expert TPUC personnel for regulatory purposes; that this Report discusses and analyzes a limited number of scenarios, based on criteria provided or approved by the TPUC, thus the results may not necessarily be representative of the entire universe of potential operational conditions in normal and failure modes; and this Report does not consider future changes in the described systems, capabilities, facilities and criteria, except and solely to the extent the Report specifically states that it is making projections that are qualified in the Report.

The Executive Summary and introductory sections of this Report contain high level synopses of only some of the results and criteria used, and they do not include the assumptions, qualifiers and explanatory material necessary for a full interpretation of the results. These are contained in the body of this Report, which should be read and interpreted in its entirety.

This Report and its individual sections have been prepared solely for the TPUC's regulatory purposes, and should not be used for any other purpose. Nothing contained herein shall be construed as conferring directly, indirectly, by implication or otherwise, any license or right under any patent or other intellectual property, whether or not the use of any information herein necessarily employs an invention of any existing or later issued patent. The use of a variety of terms to refer to Telcordia's activities, such as "validate," "evaluate," and "verify" should not be interpreted as changing these limiting conditions.

3. Areas of Strength

Telcordia observed areas in which SWBT appeared to demonstrate sensitivity to the business needs of the CLECs. These included the following.

- The managerial and technical SWBT staff involved in the 8/14/99 EDI/LSR Release, who were interviewed by Telcordia, were knowledgeable, helpful and focused on meeting the business needs of the CLECs. The SWBT team appeared well aware of the need to interact closely with the CLECs in areas where modifications to SWBT OSSs required the CLECs to modify their business practices. As observed by Telcordia, it was evident that assistance they provided during the testing sessions went beyond simple problem identification and was educational for the CLEC participants.
- Notice of Change Management Process Meetings, meeting cancellations and/or subsequent meetings was provided via Accessible Letters appeared to be adequate. Change Management Process meetings were generally scheduled monthly and this frequency was generous for the scope of the release, so that several meetings were cancelled at CLEC request. (Telcordia recognizes that the scope of the Change Management Process meeting goes beyond discussion of the current release.) SWBT appeared to be open to scheduling meetings at a frequency to suit the needs of the CLECs.
- Meeting minutes were prepared, reviewed by the CLECs and published via Accessible Letters. The most recent minutes associated with the 8/14/99 Release were published in a timely fashion. Meeting Minutes suggest that SWBT is open to CLEC requests for information as well as process improvements. Several Accessible Letters announced workshops. SWBT incrementally improved information dissemination by introducing a change log for release requirements. The modifications to the Change Control Process for dispute resolution (CLEC99-097 and CLEC99-107) are also evidence of an SWBT commitment to improving the Change Control Process.
- SWBT generally dealt with action items in a timely fashion (see Section 4.4.1). SWBT accepted a suggestion from Telcordia that action items arising in the Change Management Process meetings be more formally identified, tracked and closed in an action item register. SWBT implemented an action item register as documented in Attachment 3 of CLEC99-110, "Final Minutes for the August 10, 1999 Change Management Process Meeting – Arkansas, Kansas, Missouri, Oklahoma, Texas".
- For the 8/14/99 release, Initial Requirements were available for CLEC comment on 2/17/99 (CLECSS99-020), 178 days before the actual 8/14/99 release and 129 days before the originally planned 6/26/99 release date. The CLECs raised no objections to the time frame for the notification of changes based on the Change Management Process Meeting Minutes. (The SWBT Change Control Process does not explicitly

specify this interval.) Additional Requirements were added on 3/19/99, as a result of discussions at the 3/15/99 Change Management Process meeting, with CLEC concurrence. Final requirements were available on 3/31/99 (CLECSS-049), 136 days before the actual release. Minor changes discussed in the 6/15/99 Change Management Process meeting were proposed via Accessible Letter CLECSS99-085 on 6/17/99 with CLEC concurrence. Given the scope of this release, it appears that the CLECs had adequate time to review, comment and prepare testing for the changes. When the original 6/26/99 release date was changed to 8/14/99, this provided additional days for CLEC testing.

- Telcordia witnessed two audio conferences between CLEC test teams and the SWBT test team, and reviewed status reports, open problems and other documentation surrounding the testing process. It appeared that the CLECs were getting pro-active, competent technical assistance and timely responses to questions.
- SWBT indicated that there were no CLEC-affecting problems outstanding with the 8/14/99 release at the start of CLEC testing. Information received from SWBT's SQA (Software Quality Assurance) Defect Tracking System showed no open LSR CLEC Impacting problems and no open LSR Non-CLEC impacting problems prior to the start of CLEC Testing on 7/26/99.
- The dispute resolution modification to the Change Control Process (CLEC99-097 and CLEC99-107) was tested at the 8/10/99 meeting. In response to a request from AT&T, SWBT notified the CLECs. In turn, a quorum was present at the Change Management Process meeting and the issue raised by AT&T was discussed and answered to their satisfaction. The discussion was successful, such that the formal "Go/No Go" vote was 4-0 to go forward with the release.
- There is a well-defined process for the CLECs to submit interface change requests, with appropriate intervals for review and comment. There are opportunities for the CLECs to raise and discuss issues either in Change Management Process meetings, sidebar meetings, audio conferences, during testing or through their Account Manager.

The SWBT EDI/LSR Change Control Processes are intended to help support CLEC needs based on external interactions between SWBT and CLECs. Telcordia observed that SWBT also has internal documents which are intended to help assure software quality prior to CLEC delivery, for example to:

- Design, implement and test in a manner that accommodates ongoing change.
- Analyze changes to SWBT software to identify possible changes to associated internal (e.g. SWBT development) or user documentation.
- Consider each software change implemented across all potentially affected OSS systems (e.g., SORD, EDI, Verigate, LEX).

- Trace changes or enhancements to SWBT software applications back to the applicable (source) of the requirements such as an industry body (e.g. OBF) or CLEC.
- Identify a process for configuration management of software code and documentation.

4. Change Control Process Validation Results - Recommendations and Areas for Improvement

4.1 EDI/LSR Requirements Notification to CLECs, Timeframe for CLECs to respond to Notifications issued by SWBT

Background: CLECSS98-040 (section I), the Southwestern Bell EDI/LSR Change Control Process, states that a 14 day calendar interval will be available for CLECs to respond to every CLEC Notification issued by SWBT. According to SWBT, no written comments were received from any CLEC on the Initial Notification of Requirements, Final Notification of Requirements or subsequent modifications and clarifications to the Final Requirements for the 8/14/99 EDI/LSR release.

Concern: CLECSS99-85 ("Proposed Additional Error Messages and Removal of Redundant Jeopardy Reason Explanation for 8/14/99 Release") announced a change to the 8/14/99 release requirements but requested feedback by 8/25/99 (an 8-day window). This is inconsistent with the 14-day interval set forth by procedures.

Potential CLEC Impact: Minor. In this case, the changes were communicated to the CLECs in the 6/15/99 Change Management Process meeting with no CLEC objection and no apparent impact. However, on a going forward basis, a potential conflict may arise if the actual feedback window is inconsistent with CLEC needs or documented expectations.

Recommendation: The procedure should be followed or revised to provide a more flexible, minimum timeframe for minor or urgent changes. It is Telcordia's understanding from the Commission that the shortened timeframe resulted from Commission staff requests to expedite release implementation during OSS testing.

4.2 EDI Interface Testing

4.2.1 Management responsibility with respect to EDI/LSR Change Control Processes

Background: Two key roles of management are their efforts to:

- (a) Assure that EDI/LSR Change Control Processes are carried out as documented.
- (b) Periodically assess whether the current processes are effective in producing the desired result.

SWBT management demonstrates many positives in their testing processes, as documented in the "Areas of Strength" section of this report. However, Telcordia observed the following:

Concern: SWBT needs a robust mechanism to track and help assure that documented processes are followed. There are cases where processes were not consistently followed with respect to the 8/14/99 EDI/LSR release:

1. Test Plan - Per CLEC98-040, section V, "A test plan will be provided as part of the Final Requirements package. The test plan will include raw test data..." A test plan was not provided with final requirements. Instead, a Joint Test Plan was provided as Attachment 2 of CLEC99-097 issued on July 21, 1999. The Joint Test Plan did not provide detail specific to the 8/14/99 EDI/LSR Release (i.e., test schedule, entrance criteria, exit criteria) as typically found in test plans.
2. Test Cases - Per CLEC99-097, "Modification to Southwestern Bell EDI/LSR Change Control Process", section 1.0: For joint CLEC test, "the number of test cases will be negotiated and agreed upon with the CLEC." Although testing considerations were actively addressed, there was no documented evidence of CLEC agreement to the number of test cases.
3. Joint Test Schedule - CLEC99-097 section 2.2, contains a list of ten test-related tasks and states, in part, "Completion of the following (the Task List) by the agreed upon Due Date are critical to the testing effort. Tasks may be modified as needed." There is a lack of evidence to show that those tasks were formally considered and assigned Due Dates, as applicable.
4. Entrance Criteria - Per CLEC99-097 section 5.1, the "CLEC and P*B/N*B/SWB testing organization will jointly be responsible for (defining the entrance criteria and) identifying whether or not the entrance criteria have been met." There is a lack of evidential data provided to Telcordia that entrance criteria was defined or formally considered.

5. Exit Criteria – Per CLEC99-097 Section 5.2 of Attachment 2, the “CLEC and P*B/N*B/SWB testing team will be responsible for tracking test progress to identify whether the exit criteria have been met... Testing activities should not end until the exit criteria have been satisfied or the test participants have assumed the risk of going forward without meeting the criteria.” However, there is a lack of evidence that exit criteria was formally defined or achieved. Typically, exit criteria would be predefined and tracked during testing. If the exit criteria is not completely met, one could move to a vote/decision process.

Assumption: This concern assumes, based on the wording of CLEC98-040, CLEC99-097 and CLEC99-107 that the EDI/LSR Change Control Processes are procedures, not guidelines. There is evidence that SWBT considers the EDI/LSR Change Control Process to be a “guideline”. For example, CLEC99-070, the “Final Minutes – May 11, 1999 Change Management Process Meeting”, page 4, states: “SWB had asked CLECs for leeway as it ramped up to adhere to the CMP *guideline*. In the February meeting, there was general concurrence that 1999 would be an ‘exception year’”. If these procedures currently are “guidelines”, or optional as CLEC98-040 suggests, then they should become procedures.

Potential CLEC Impact: Major. Unless quality procedures are adequately defined and consistently implemented, there is a risk that the desired activities (i.e. achievement of SWBT’s business responsibilities to CLECs) will not be performed, schedules may be missed or quality may be sacrificed on a going forward basis.

Recommendation: EDI/LSR Change Control Processes should be reviewed and revised to reflect a process that is worded as it is actually intended for use. Activities that are expected should be phrased with words like “should,” “shall” or “will”. Optional activities should be phrased with words like “may”, “optional” or “at the discretion of”.

For example, based on the interview of the joint test team for the 8/14/99 EDI/LSR Release, a formal checklist that defined entrance criteria and recorded status was not considered necessary. Instead, the Joint Test Schedule appeared to be the driver. Note that entry criteria such as “Satisfactory completion of Regression Testing by SWB”, had been identified as a CLEC concern in the 2/2/99 Change Management Process meeting. If flexibility is appropriate, then the process needs to be reworded accordingly. Otherwise, entrance criteria should be considered, with evidence recorded to verify conformance to procedures. Once the documented procedures are practical, a mechanism is needed to help assure that documented procedures are consistently followed. This could consist of internal audits to verify and document whether activities comply with procedures and planned arrangements.

4.2.2 Timeframe for CLECs to perform External Interface Testing

Background: CLEC98-040 (section V) states that "Testing of a new release will normally be scheduled... at least 30 days prior to the implementation date." Elsewhere in the same document, this External Interface Testing is stated to have a timeline of "3 weeks or as mutually agreed by all parties".

Concern: After receiving guidance from Commission staff, SWBT issued Accessible Letter CLEC99-051, "Final Minutes – February 23, 1999 Change Management Process Meeting", that announced that 1999 is a transition year wherein the timelines for LSR ordering have been condensed. Nevertheless, the reduced timeframe for External Interface Testing (initially proposed as 5 days) was an area of CLEC concern in connection with the 8/14/99 EDI/LSR release cycle. Later, as reported in CLEC99-085, the "Final Minutes for June 15, 1999 Change Management Process Meeting", the testing window for the 8/14/99 EDI/LSR release was set at 14 days. In each case, the testing interval was not set in a manner consistent with the documented procedure.

Potential CLEC Impact: Minor. In relation to the 8/14/99 EDI/LSR Release, the 14-day testing window provided the time for the participating CLECs to complete their testing. In conjunction with the "Go/No Go vote" per the Dispute Voting Process, voting CLECs unanimously agreed that the 8/14/99 EDI/LSR Release was ready for production. However, on a going forward basis, field faults may arise if the actual testing window is inconsistent with CLEC needs, expectations or documented processes.

Recommendation: The process (CLEC98-040) which defines the number of days for the testing window should be revised to be consistent within itself. Timeframes should help assure adequate testing quality and be sufficiently flexible to be realistic, e.g., to consider minimum testing intervals, shorter intervals for minor releases, and other adjustments as mutually agreed to by all parties. Use of a phrase such as "normally be scheduled", requires additional clarification of what is normal and what happens in an "abnormal" situation. Flexibility and cooperation can both be accommodated with a phrase such as "with the documented concurrence of all participants or as required by a regulatory body, the foregoing timeframes can be modified."

4.2.3 Metrics for Joint CLEC Testing

Background: Per CLEC99-097 (e.g., sections 3.2, 7.1 and 7.3), the SWBT Test Team is responsible to prepare and report the status of testing metrics. For example, the procedures state that:

1. "During the execution phase, the testing team will document discrepancies to monitor defects discovered throughout the execution of the test. ...SWB will monitor the

4.5 On-going Opportunities for Improvement

This subsection provides a list of additional Opportunities for Improvement identified with respect to the EDI/LSR Change Control Process. Opportunities for Improvement are not based on concerns, but rather suggestions for on-going improvement.

4.5.1 Identification of EDI/LSR Change Control procedures

Observation: Accessible Letters, which document the EDI/LSR Change Control Process, are available on the CLEC Online internet site. However, as the process continues to evolve, users (particularly new users) will benefit from a convenient method to discern which letters are part of the process and which are not.

Suggestion: An index, hot link or pointer, which identifies the comprehensive set of EDI/LSR Change Control Process documents (e.g., CLEC98-040, CLEC99-097 and CLEC99-107), is recommended.

4.5.2 Automation for Tracking Change Control Items

Observation: The Change Control Process has many items that have to be tracked including: CLEC Change Requests, CLEC questions/issues in reference to Notifications, SWBT responses to CLEC questions/issues, CLEC Joint Testing issues, and SWBT responses to CLEC Joint Testing issues.

Suggestion: An automated tool for tracking these items could simplify the tracking process and help ensure that all items are addressed in a timely manner.

4.5.3 Test Environment for Joint Testing

Observation: The current SWBT EDI/LSR Change Management Process does not discuss details of the environment provided for CLEC EDI/LSR release testing. The SWBT Change Management Process addresses the EDI/LSR release test environment (CLEC99-097) by showing a flow diagram of the test process. The SWBT Change Management Process does not include detailed information on test case setup, operation or use of the EDI/LSR release test environment. Although this topic may or may not be formally included in future versions of the SWBT Change Management Process, CLECs, particularly new CLECs, need detailed information on the operation and use of the test environment.

Suggestion: CLECs should have detailed written information on the use and operation of the SWBT EDI/LSR release test environment.

4.5.4 Repeatability of EDI/LSR Change Control Processes

Observation: The success to date of the EDI/LSR Change Control Processes depends, in large part, on the expertise of those leading the effort. If the staffing of the SWBT team changes, SWBT responsibilities to CLECs will be facilitated by the degree to which current tasks may be duplicated.

Suggestion: As part of on-going improvement, it would add value for procedures to state who does what, when in a manner that is more specific and complete, so that satisfaction of activities can be tracked. The process will benefit from clarifications of:

1. The relative timing or duration of the following processes:

- Final Release Notification,
- Field testing by the CLECs (prior to Release),
- Release date and
- Change Management Process Meetings.

2. Who (by title/role) is responsible to:

- Schedule Interface changes
- Communicate interface changes via Accessible Letter
- Review CLEC comments
- Resolve conflicts
- Facilitate CLEC testing
- Implement changes to interface software and
- Track test data through deployment.

3. Other, e.g., Where to file/maintain joint test schedules, templates (if any) and action item registers. How to accomplish required tasks.

defect volume, type, priority, current status, and root cause of issues known as modification requests (MRs)."

2. "...SWB will provide the input data for metrics reported to project stakeholders during the test. A status report detailing open defects will be made available to test participants on a daily basis."
3. "Metrics are collected and used to manage MRs, identify trends, report status, and improve processes, (wherein) the following metrics will be provided to project stakeholders: (a) Test Condition Status, (b) Activities Processed, (c) Defect Turnaround Time."

The SWBT Test Team provided metrics to the CLECS that participated in joint testing during the regularly scheduled (daily) conference calls. During these calls all MRs (problems discovered during testing) were discussed in detail (including: defect volume, type, priority, current status, test cases processed, turnaround time) and issues were tracked through to closure. Also any questions relating to joint testing were addressed. However,

Concern: There was no documented evidence of MR trends analysis or root cause analysis.

Potential CLEC Impact: Minor. The trend analysis and root cause analysis assists in the identification of: (a) process deficiencies in the software development life cycle (e.g., design reviews not being held), (b) possible weak spots in the product (e.g., overly complex or poorly written subroutines) and (c) areas where future emphasis on testing should be placed to adequately address high problem areas. Lack of test metrics for the 8/14/99 EDI/LSR Release may potentially be CLEC-affecting and, on a going forward basis, the activities described help prevent future software concerns.

Recommendation: The SWBT Test Team should implement all test metrics activities as described by the EDI/LSR Change Control Process including trend analysis of MRs and root cause analysis of MRs. Test metrics-related processes should be reviewed and revised to reflect a process that is worded as actually intended for use. In addition, a mechanism is needed to help assure that documented procedures are consistently followed.

4.3 Changes associated with the Change Control Process

4.3.1 Tracking of Change Management Process Meeting Action Items

Background: Minutes of Change Management Process Meetings are consistently documented, including new action items as identified during each meeting. Also, there is

a section in these minutes intended to report the status and disposition of prior action items.

An 8-State "drafting team" has been formed among SWBT and the CLECs to re-write the Change Control Process with a goal to implement the new process in the year 2000. The initial meeting was held in June and the next meeting is tentatively scheduled for 9/14-16/99 in Dallas, Texas. Additionally, effort is under way to define "versioning" for the EDI/LSR Releases.

Concern: Based on the lack of detail regarding prior action items, it is not consistently possible to assess the status, activity-to-date or closure of action items. (No Action Item Register was available.) For example:

1. In the minutes of the 2/2/99 Change Management Meeting (page 8), SWBT indicated that they would be providing a "monthly summary of all change requests that are summarized by CLECs." Monthly summaries of CLEC change requests were not consistently part of subsequent meeting minutes.
2. In CLEC99-070, "Final minutes – May 11, 1999 Change Management Process Meeting (page 6), seven action items were documented. However, in the subsequent meeting, per CLEC99-085, "Final minutes for June 15, 1999 Change Management Process Meeting" (page 5), these action items were neither tracked nor documented as completed.
3. Per CLEC99-104, "Final minutes for July 13, 1999 Change Management Process Meeting", previous action items were not adequately tracked.

Potential CLEC Impact: Minor. The tracking and closure of action items did not appear to be a CLEC-affecting issue in relation to the 8/14/99 EDI/LSR Release. However, on a going forward basis, there is a risk that the quality of CLEC deliverables may be adversely affected (e.g., requirements may be missed) if action items are not consistently tracked to closure.

Recommendation: Minutes from Change Management Process meetings should include an Action Item Register (or similar record) which describes information such as the action item, current status, actions taken to date, company responsible, contact person, date opened, priority or due date, date closed, etc. A person should be designated as responsible for tracking and reporting on the status of these action items through closure. (Note: SWBT has agreed to implement this suggestion, effective with the 8/10/99 Change Management Process meeting minutes.)

4.4 Dispute Voting Process

No concerns were identified in this area relative to the scope of this assessment.

Note: Much of the above information is already adequately defined elsewhere. For example, SWBT developed an internal set of viewgraphs entitled "SWB/CLEC Change Management Process Overview OSS Product Management & CLEC Support" (dated 11/12/98). These viewgraphs specify roles and responsibilities for OSS Product Management, CLEC Support, Account Managers, Application Managers, LRB/Requirements Teams, Testing, Training and other personnel. Nevertheless, it may be beneficial if this information to be included in the actual procedure documents.

5. Notes on CLEC Concerns

In the course of this assessment, various CLEC concerns documented in Change Management Meeting Minutes were taken into consideration as discussed below. At the Change Management meetings (12/8/98, 5/11/99), CLECs raised several issues regarding the Change Control Process these are listed below followed by Telcordia's principal findings in parentheses:

- SWBT Final requirements are not truly "final". (Telcordia found that there was some "churn" in the Final requirements for this release [CLECSS99-085, CLECSS99-096 and CLEC105], but all of the changes were discussed in Change Management Process meetings and finalized with CLEC concurrence. This can be expected when developing software and is not a problem as long as requirement changes are agreed to among SWBT and the CLECs.)
- The observed test intervals are too short. (Telcordia found that the shortened timeline {14 versus 30 days} was related to interim requests from the Texas Commission intended to increase the pace of adding functionality to the systems. Part of the concern here was the stability of the test environment, i.e. is the test environment ready for the CLECs to use on the first day of testing?)
- CLECs are encountering errors that should have been resolved in SWBT regression testing, i.e. SWBT does not complete regression testing before CLEC testing. (Telcordia found that the SWBT Change Management Process does not address SWBT's internal regression testing of EDI/LSR Releases. According to SWBT, regression testing was complete and no CLEC affecting defects were unresolved. However, this was not validated because it was not within scope.)
- CLECs have raised questions about the EDI/LSR release test environment in the Change Management Process meetings, including:
 - the necessity of break points in the test flow where SWBT manually monitors progress of individual test cases. When tests do not flow through automatically, this delays notifications/responses of test results to the CLECs;

- the limitations on the number of test accounts available for CLEC testing.

(Telcordia found that the SWBT Change Management Process only addresses the EDI/LSR release test environment by showing minimal information on a flow diagram of the test process. The SWBT Change Management Process does not include detailed information on test case setup, operation or use of the EDI/LSR release test environment. CLECs, particularly new CLECs, would benefit from having more detailed information on the operation and use of the test environment used for joint testing.)

- The CLECs did not have a documented way to delay a release when it was incompatible with their business processes. (This concern has been addressed by the dispute resolution modifications to the Change Control Process.)

Where applicable, the above issues were taken into consideration in writing other sections of this report.

6. References

Document #	Date	Topic
CLECSS98-040	06/15/99	EDI/LSR Change Control Process
CLECSS97-045	07/17/98	EDI/LSR Interface Change Control
CLEC99-004	01/13/99	Announce 2/2 meeting and preliminary agenda
CLEC99-009	01/25/99	Correct phone # in 99-004
CLEC99-011	01/27/99	2/2/99 Change Management Process meeting final agenda
n/a	2/2/99	2/2/99 Change Management Process meeting minutes (recorded by court reporter)
CLEC99-022	02/10/99	2/23/99 Change Management Process meeting confirmation - no agenda
CLEC99-027	03/02/99	Announce 3/16 Change Management Process meeting and preliminary agenda
CLEC99-033	03/10/99	3/16/99 Change Management Process meeting confirmation and final agenda

CLEC99-037	03/22/99	4/13/99 Change Management Process meeting cancellation pursuant to 3/16/99 discussion and consensus
CLEC99-049	04/20/99	Announce 5/11/99 Change Management Process meeting and preliminary agenda
CLEC99-051 minutes	04/27/99	2/23/99 Change Management Process meeting
CLEC99-052 minutes	04/27/99	3/16/99 Change Management Process meeting
CLEC99-058	05/04/99	5/11/99 Change Management Process meeting final agenda and working documents (change log)
CLEC99-066	05/14/99	6/8/99 Change Management Process meeting cancellation per 5/11/99 discussion and consensus
CLEC99-070 minutes	05/25/99	5/11/99 Change Management Process meeting
CLEC99-078	05/28/99	delay of the 6/26/99 EDI/LSR Release to 8/14/99
CLEC99-085	06/17/99	minor changes as discussed in 6/15/99 Change Management Process meeting
CLEC99-085 minutes	06/28/99	6/15/99 Change Management Process meeting
CLEC99-096	07/08/99	Update to 8/14/99 requirements as discussed in 6/15/99 Change Management Process meeting (prior note CLEC99-085)
CLEC99-097	07/21/99	modification to add Go/No Go process
CLEC99-099	07/23/99	confirm 8/10/99 and preliminary agenda
CLEC99-105	07/26/99	clarification to final requirements
CLEC99-107	08/08/99	modification to quorum and voting on Go/No-Go
n/a	08/13/99	8/10/99 Change Management Process meeting minutes (draft)

Attachment A - Issues Discovered and On-going Opportunities for Improvement - CMP Validation

1. Introduction

The validation of how well SWBT followed the SWBT Change Management Process for EDI/LSR 8/14/99 Release and the effectiveness of that process relative to that release, identified a number of issues. As issues surfaced, they were analyzed and recommendations were generated.

Note that the description of the issue and the recommendation are the Telcordia view.

1.1 Description of Detailed Data

1.1.1 Definition of Table Headings

The table below is intended to be mostly self-explanatory so that this section can be used independently of the rest of the report.

1.1.2 Issue Number

The issue number is a unique identifier for an issue. The issue number will not change.

- CMP = CMP issue
- OI = On-going Opportunity for Improvement

1.1.3 Issue Description

Telcordia's wording of the Issue Description is intended for clarity to a knowledgeable outsider. The Issue Description is unlikely to change except in unusual circumstances.

1.1.4 Observation

Telcordia's observation relative to an opportunity for improvement.

1.1.5 Date Logged

The date logged is the date that the issue was put on the issues list. The date logged will not change.

1.1.6 Recommendation

The recommendation based on the analysis of issue.

1.1.7 Suggestion

Telcordia's suggestion on a potential opportunity for improvement.

1.1.8 Actions Taken

The actions taken include any actions taken by SWBT. As work continues on an issue, additional information may be entered into this field.

1.1.9 Status

This tracks the issue status. Statuses used in the tables are:

- Open = Initial state of an item
- Under Investigation = accountable party is investigating the issue
- Pending = issue has, according to the accountable party, has been agreed to but not implemented
- Closed = issue has been resolved and Telcordia has validated the closure
- Obser. = observation provided to the Texas Commission

2. Issues Discovered During CMP Validation

In the course of validating how well SWBT followed the SWBT Change Management Process for the EDI/LSR 8/14/99 Release and the effectiveness of that process relative to that release, issues were identified. The following table is a summary of these issues.

SUMMARY OF ISSUES DISCOVERED DURING CMP VALIDATION					
Issue Number	Issue Description	Date	Recommendation	Actions Taken	Status

SUMMARY OF ISSUES DISCOVERED DURING CMP VALIDATION					
Issue Number	Issue Description	Date	Recommendation	Actions Taken	Status
CMP-1	<p>CLECSS98-040 (section I), the Southwestern Bell EDI/LSR Change Control Process, states that a 14 day calendar interval will be available for CLECs to respond to every CLEC Notification issued by SWBT. According to SWBT, no written comments were received from any CLEC on the Initial Notification of Requirements, Final Notification of Requirements or subsequent modifications and clarifications to the Final Requirements for the 8/14/99 EDI/LSR release.</p> <p>CLECSS99-85 ("Proposed Additional Error Messages and Removal of Redundant Jeopardy Reason Explanation for 8/14/99 Release") announced a change to the 8/14/99 release requirements but requested feedback by 8/25/99 (an 8-day window). This is inconsistent with the 14-day interval set forth by procedures.</p>	8/23/99	<p>The procedure should be followed or revised to provide a more flexible, minimum timeframe for minor or urgent changes. It is Telcordia's understanding from the Commission that the shortened timeframe resulted from Commission staff requests to expedite release implementation during OSS testing.</p>	<p>The Southwestern Bell EDI/LSR Change Control Process document does not state that every CLEC Notification issued by SWBT will have a 14-day calendar interval for comments. However the document provides for a 14-day CLEC comment cycle on the Initial Notification and the Final Requirements. The example used in CMP-1 is for a Notification that followed the Final Requirements. This particular notification was brought up for discussion by SWBT at a monthly CMP meeting and SWBT requested CLEC concurrence. No objections were voiced and an Accessible Letter was issued describing the requested change to the Final Requirements and asking for CLEC comments. This process is not covered in the document. It is considered an exception process, and must remain flexible in order to meet the needs of the parties. For this given example, due to the timeframes involved and due to the small size of the change, one week for comments was provided. SWBT received no comments from the CLECs on this requested change.</p> <p>The revised CMP document documents an exception process. However, no timeframes are provided for comment cycles to allow for flexibility.</p>	Obser.

SUMMARY OF ISSUES DISCOVERED DURING CMP VALIDATION					
Issue Number	Issue Description	Date	Recommendation	Actions Taken	Status
CMP-2	<p>SWBT lacks a mechanism to track and help assure that documented processes are followed. There are cases where processes were not consistently followed with respect to the 8/14/99 EDI/LSR release:</p> <ol style="list-style-type: none"> 1. Test Plan - Per CLECSS98-040, section V, "A test plan will be provided as part of the Final Requirements package." A test plan was not provided with final requirements. 2. Test Cases - Per CLEC99-097, "Modification to Southwestern Bell EDI/LSR Change Control Process", section 1.0: For joint CLEC test, "the number of test cases will be negotiated and agreed upon with the CLEC." Although testing considerations were actively addressed, there was no evidence of CLEC agreement to the number of test cases. 3. Joint Test Schedule - CLEC99-097 section 2.2, contains a list of ten test-related tasks and states, in part, "Completion of the following (the Task List) by the agreed upon Due Date are critical to the testing effort. Tasks may be modified as needed." There is a lack of evidence to show that those tasks were formally considered and assigned Due Dates, as applicable. 4. Entrance Criteria - Per CLEC99-097 section 5.1, the "CLEC and P*B/N*B/SWB testing organization will jointly be responsible for (defining the entrance criteria and) identifying whether or not the entrance criteria have been met." There is a lack of evidential data provided to Telcordia that entrance criteria was defined or formally considered. 5. Exit Criteria - Per CLEC99-097 section 5.2, the "CLEC and P*B/N*B/SWB testing team will be responsible for tracking test progress to identify whether the exit criteria have been met... Testing activities should not end until the exit criteria have been satisfied or the test participants have assumed the risk of going forward without meeting the criteria." However, there is a lack of evidence that exit criteria was formally defined or achieved. Typically, exit criteria would be predefined and tracked during testing. If the criteria is not completely met, one could move to a vote/decision process. 	8/23/99	<p>EDI/LSR Change Control Processes should be reviewed and revised to reflect an adequate process that is worded as it is actually intended for use. Activities that are expected should be phrased with words like "should," "shall" or "will".</p> <p>Optional activities should be phrased with words like "may", "optional" or "at the discretion of".</p> <p>--For example, based on the interview of the joint test team for the 8/14/99 EDI/LSR Release, a formal checklist that defined Entry Criteria and recorded status was not considered necessary. Instead, the Joint Test Schedule appeared to be the driver. Note that entry criteria such as "Satisfactory completion of Regression Testing by SWB", had been identified as a CLEC concern in the 2/2/99 Change Management Process meeting. If flexibility is appropriate, then the process needs to be reworded accordingly. Otherwise, Entry Criteria should be considered, with evidence recorded to verify conformance to procedures. Once the documented procedures are practical, a mechanism is needed to help assure that documented procedures are consistently followed. This could consist of internal audits to verify and document whether activities comply with procedures and planned arrangements.</p>	<p>SWBT has submitted a revised CMP document that more clearly documents the process that SWBT is actually following. It is also SWBT's intent, in the September 8-State drafting meetings, to develop a documented process that is practical and is worded as it is actually intended for use.</p> <p>SWBT agrees with item number 1. A test plan was not provided with Final Requirements. Whereas providing a test plan with final requirements may have seemed like a workable plan at the time the document was developed, it is Telcordia's opinion that in reality, providing a test plan at the time of Final Requirements is not a significant benefit, and is contrary to the development cycle. CLECs are not ready for the test plan at that stage of development. Nor has SWBT had the necessary time to build the test plan and test cases to be used during the testing interval. The Final Requirements and the Test Plan/Cases are sequential steps in the process. Final requirements can change at any step in the software development lifecycle.</p> <p>To address this concern, SWBT will offer two test plans for use. One is for initial EDI implementation and is used for CLECs coming up on EDI for the first time. A second test plan is being developed for Release testing. This test plan will focus on the testing process followed for the quarterly releases.</p> <p>By providing a Release Test Plan, SWBT will document a process that can be used and modified by CLECs participating in joint release testing.</p>	Pending

SUMMARY OF ISSUES DISCOVERED DURING CMP VALIDATION					
Issue Number	Issue Description	Date	Recommendation	Actions Taken	Status
CMP-3	<p>CLEC98-040 (section V) states that "Testing of a new release will normally be scheduled... at least 30 days prior to the implementation date." Elsewhere in the same document, this External Interface Testing is stated to have a timeline of "3 weeks or as mutually agreed by all parties".</p> <p>After receiving guidance from Commission staff, SWBT issued Accessible Letter CLEC99-051, "Final Minutes - February 23, 1999 Change Management Process Meeting", that announced that 1999 is a transition year wherein the timelines for LSR ordering have been condensed. Nevertheless, the reduced timeframe for External Interface Testing (initially proposed as 5 days) was an area of CLEC concern in connection with the 8/14/99 EDI/LSR release cycle. Later, as reported in CLEC99-085, the "Final Minutes for June 15, 1999 Change Management Process Meeting", the testing window for the 8/14/99 EDI/LSR release was set at 14 days. In each case, the testing interval was not set in a manner consistent with the documented procedure.</p>	8/23/99	<p>The process (CLEC98-040) which defines the number of days for the testing window should be revised to be consistent within itself. Timeframes should help assure adequate testing quality and be sufficiently flexible to be realistic, e.g., to consider minimum testing intervals, shorter intervals for minor releases, and other adjustments as mutually agreed to by all parties. Use of a phrase such as "normally be scheduled", requires additional clarification of what is normal and what happens in an "abnormal" situation. Flexibility and cooperation can both be accommodated with a phrase such as "with the concurrence of all participants or as required by a regulatory body, the foregoing timeframes can be modified."</p>	<p>SWBT agrees with the recommendation to define the number of days for the testing interval and to be consistent within the document. SWBT has filed a proposal that would modify the Change Management Process in which that recommendation was implemented. A 30-day testing interval is provided and will conclude one week prior to implementation.</p> <p>The new SWBT Interface Change Management Process states "SWBT will make testing available in accordance with the timeframes specified in the Final Release Requirements. The available testing timeframe shall be no less than 30 calendar days."</p>	Closed

SUMMARY OF ISSUES DISCOVERED DURING CMP VALIDATION					
Issue Number	Issue Description	Date	Recommendation	Actions Taken	Status
CMP-4	<p>Per CLEC99-097 (e.g., sections 3.2, 7.1 and 7.3), the SWBT Test Team is responsible to prepare and report the status of testing metrics. For example, the procedures states that:</p> <ol style="list-style-type: none"> 1. "During the execution phase, the testing team will document discrepancies to monitor defects discovered throughout the execution of the test. ...SWB will monitor the defect volume, type, priority, current status, and root cause of issues known as modification requests (MRs)." 2. "...SWB will provide the input data for metrics reported to project stakeholders during the test. A status report detailing open defects will be made available to test participants on a daily basis." 3. "Metrics are collected and used to manage MRs, identify trends, report status, and improve processes, (wherein) the following metrics will be provided to project stakeholders: (a) Test Condition Status, (b) Activities Processed, (c) Defect Turnaround Time." <p>The SWBT Test Team provided metrics to the CLECS that participated in joint testing during the regularly scheduled (daily) conference calls. During these calls all MRs (problems discovered during testing) were discussed in detail (including : defect volume, type, priority, current status, test cases processed, turnaround time) and issues were tracked through to closure. Also any questions relating to joint testing were addressed. However, there was no documented evidence of MR trends analysis or root cause analysis.</p>	8/23/99	The SWBT Test Team should implement all test metrics activities as described by the EDI/LSR Change Control Process including trend analysis of MRs and root cause analysis of MRs.	<p>The new SWBT Interface Change Management Process states that where applicable, SWBT and CLECs will perform gateway interface testing as negotiated by the parties and documented in a customized test plan. SWBT maintains a joint release test plan template on its CLEC web site that may be used in the development of the customized test plan.</p> <p>Test metrics, as defined in a customized test plan, will be provided.</p>	Pending

SUMMARY OF ISSUES DISCOVERED DURING CMP VALIDATION					
Issue Number	Issue Description	Date	Recommendation	Actions Taken	Status
CMP-5	<p>Minutes of Change Management Process Meetings are consistently documented, including new action items as identified during each meeting. Also, there is a section in these minutes intended to report the status and disposition of prior action items.</p> <p>Based on the lack of detail regarding prior action items, it is not consistently possible to assess the status, activity-to-date or closure of action items. (No Action Item Register was available.) For example:</p> <ol style="list-style-type: none"> 1. In the minutes of the 2/2/99 Change Management Meeting (page 8), SWBT indicated that they would be providing a "monthly summary of all change requests that are summarized by CLECs." Monthly summaries of CLEC change requests were not consistently part of subsequent meeting minutes. 2. In CLEC99-070, "Final minutes – May 11, 1999 Change Management Process Meeting (page 6), seven action items were documented. However, in the subsequent meeting, per CLEC99-085, "Final minutes for June 15, 1999 Change Management Process Meeting" (page 5), these action items were neither tracked nor documented as completed. 3. Per CLEC99-104, "Final minutes for July 13, 1999 Change Management Process Meeting", previous action items were not adequately tracked. 	8/23/99	Minutes from Change Management Process meetings should include an Action Item Register (or similar record) which describes information such as the action item, current status, actions taken to date, company responsible, contact person, date opened, priority or due date, date closed, etc. A person should be designated as responsible for tracking and reporting on the status of these action items through closure. (Note: SWBT has agreed to implement this suggestion, effective with the 8/10/99 Change Management Process meeting minutes.)	SWBT has implemented an Action Item Log. Eva Hardy, of SBC, will be responsible for maintaining the Log, ensuring that Action Items are closed and for providing a read-out of the status at CMP meetings.	Closed

4. On-going Opportunities for Improvement

This subsection provides a list of additional Opportunities for Improvement identified with respect to the EDI/LSR Change Control Process. Opportunities for Improvement are not based on concerns, but rather suggestions for on-going improvement.

SUMMARY OF OPPORTUNITIES FOR IMPROVEMENT					
Number	Observation	Date	Suggestion	Actions Taken	Status
OI-1	Accessible Letters, which document the EDI/LSR Change Control Process, are available on the CLEC Online internet site. However, as the process continues to evolve, users (particularly new users) will benefit from a convenient method to discern which letters are part of the process and which are not.	8/23/99	An index, hot link or pointer, which identifies the comprehensive set of EDI/LSR Change Control Process documents (e.g., CLEC98-040, CLEC99-097 and CLEC99-107), is recommended.	SWBT has agreed to implement a Change Management location on its CLEC web site at a future date. Among other things, this web site will provide references to Accessible Letters regarding Change Management.	Pending

SUMMARY OF OPPORTUNITIES FOR IMPROVEMENT					
Number	Observation	Date	Suggestion	Actions Taken	Status
OI-2	The Change Control Process has many items that have to be tracked including: CLEC Change Requests, CLEC questions/issues in reference to Notifications, SWBT responses to CLEC questions/issues, CLEC Joint Testing issues, and SWBT responses to CLEC Joint Testing issues.	8/23/99	An automated tool for tracking these items could simplify the tracking process and help ensure that all items are addressed in a timely manner.	SWBT currently maintains logs of Notifications, CLEC comment dates, SWBT response dates, and CLEC questions/issues regarding release requirements. The Testing Team tracks release test issues through to closure. These issues are discussed in daily conference calls with individual CLECs.	Closed

SUMMARY OF OPPORTUNITIES FOR IMPROVEMENT					
Number	Observation	Date	Suggestion	Actions Taken	Status
OI-3	The current SWBT EDI/LSR Change Management Process does not discuss details of the environment provided for CLEC EDI/LSR release testing. The SWBT Change Management Process addresses the EDI/LSR release test environment (CLEC99-097) by showing a flow diagram of the test process. The SWBT Change Management Process does not include detailed information on test case setup, operation or use of the EDI/LSR release test environment. Although this topic may or may not be formally included in future versions of the SWBT Change Management Process, CLECs, particularly new CLECs, need detailed information on the operation and use of the test environment.	8/23/99	CLECs should have detailed written information on the use and operation of the EDI/LSR release test environment.	<p>The existing Test Plan provides a flow diagram of the test environment.</p> <p>SWBT will add a written description of the capabilities of its test environment to its test plans.</p>	Pending

SUMMARY OF OPPORTUNITIES FOR IMPROVEMENT					
Number	Observation	Date	Suggestion	Actions Taken	Status
OI-4	The success to date of the EDI/LSR Change Control Processes depends, in large part, on the expertise of those leading the effort. If the staffing of the SWBT team changes, SWBT responsibilities to CLECs will be facilitated by the degree to which current tasks may be duplicated.	8/23/99	<p>As part of on-going improvement, it would add value for procedures to state who does what, when in a manner that is more specific and complete, so that satisfaction of activities can be tracked. The process will benefit from clarifications of:</p> <ol style="list-style-type: none"> 1. The relative timing or duration of the processes: 2. Who (by title/role) is responsible to: <ul style="list-style-type: none"> • Schedule Interface changes • Communicate interface changes via Accessible Letter • Review CLEC comments • Resolve conflicts • Facilitate CLEC testing • Implement changes to interface software and • Track test data through deployment. 4. Other, e.g., Where to file/maintain joint test schedules, templates (if any) and action item registers. How to accomplish required tasks. 	SWBT agrees to update its existing internal Change Management document. This is an internal document, intended to provide a smooth transition in the event of personnel changes.	Pending

Questions for CLEC Interviews

1. What was your involvement in the Change Management Process (CMP) as it was applied to the 10/23/99 EDS/LSR Release?
 - 1.1 Were you a participant in CMP meetings?/CLEC Joint Testing (10/23/99 EDS/LSR Release)?
2. Overall, was the CMP followed for the 10/23/99 Release?
 - 2.1 Did SWBT and the CLECs adhere to the prescribed events and time lines appropriate to the types of interface changes in the 10/23/99 release?
 - 2.2 Did SWBT and the CLECs negotiate and carry out Gateway Interface Testing as specified in the CMP document?
3. What are your views as to the strengths in how the CMP was applied to the 10/23/99 Release?
4. What are your views as to the weaknesses in how the CMP was applied to the 10/23/99 Release?
 - 4.1 Were these weaknesses a failure to follow the documented process?
 - 4.2 Were these weaknesses (related to the 10/23/99 Release) conveyed to SWBT?
 - Via response to Accessible Letter related to 10/23/99 EDS/LSR Release?
 - Via issue raised at a CMP meeting?
 - Via an OIS (Outstanding Issue Solution) as documented in the CMP?
 - 4.2 If not, why not?
5. Did the CMP fulfill your company's needs for providing timely notification of interface changes to the 10/23/99 Release? if not, please provide examples
6. Did the CMP meetings provide your company with an opportunity to provide feedback on the application of the CMP to the 10/23/99 Release?
7. Did the SBC Website fulfill your company's needs for receiving information associated with the 10/23/99 Release? If not, why not – suggestions for improvement?
8. In your testing, did you uncover any defects in the 10/23/99 EDI/LSR Release that required SWBT to make a software fix?
9. Based on your experience in handling the 10/23/99 EDI/LSR Release, do you have any suggestions on how the CMP Process should be improved for future releases?
10. Would you have any objection to being cited as one of the interviewed CLECs in the Telcordia report? **Note: Even if you say "yes", we will not put in any CLEC names unless we get a unanimous approval from all CLECs interviewed.**
11. Test entrance/exit criteria – Was the entrance/exit criteria followed for joint testing of the 10/23/99 EDS/LSR Release (as defined in the Joint Release Test Plan Template)? Did you have any problems meeting the entrance criteria (from your perspective as a CLEC)?